#### (19) World Intellectual Property Organization International Bureau



# 

#### (43) International Publication Date 16 May 2002 (16.05.2002)

#### **PCT**

Korean

#### (10) International Publication Number WO 02/38221 A1

A62B 18/02 (51) International Patent Classification7:

(21) International Application Number: PCT/KR01/01917

(22) International Filing Date:

10 November 2001 (10.11.2001)

(25) Filing Language:

(26) Publication Language: English

(30) Priority Data:

2000/31451 U 10 November 2000 (10.11.2000) KR

(71) Applicant and

(72) Inventor: LEE, Keun-Woo [KR/KR]; 101-1101, Sky-Ssangyong Apt., Jungnung1-dong, Sungbuk-gu, Seoul 136-101 (KR).

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

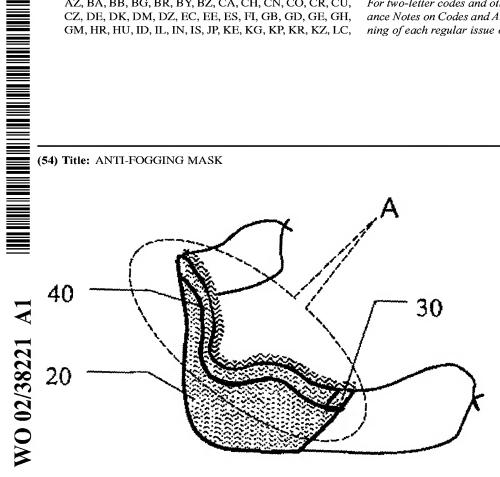
(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

#### **Published:**

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments
- entirely in electronic form (except for this front page) and available upon request from the International Bureau

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: ANTI-FOGGING MASK



(57) Abstract: This invention is an Anti-fogging Mask which is designed to prevent glasses from fogging due to the moist breath from the mouth and nose of the users of glasses in the winter, by a specially designed system that will closely contact the mask with the nose of the user. This particular mask is effective in preventing the moist breath coming out through the upper part of the mask, and its structure is simple and is cheap to produce.

WO 02/38221 A1

## **ANTI-FOGGING MASK**

#### TECHNICAL FIELD

5

15

20

This invention relates to an anti-fogging mask which is designed to prevent glasses from fogging due to the moist breath from the mouth and nose of the users of glasses in the winter, by specially designed system that will keep in close contact the mask with the nose of the user.

### 10 BACKGROUND ART

As an example of an anti-fogging mask, Korea Pat. No. 195919 (utility model) is an anti-fogging mask that is used by people who ride motorcycles or bicycles in the winter, this patent prevent fogging on the front part of the helmet caused by the moist breath from the mouth and nose of the user, by using a pad that prevents the moist breath from rising and by changing the moist breath into water and letting it go down to the lower part of the mask.

Notwithstanding the present application of this patent, people who use this patent do not feel comfortable because of the anti-evaporation pad that is attached to the upper part of the mask. Also, this pad is not washable due to the complicated structure of the mask so that is not sanitary. This patent cannot be prefectly adjusted to the nose of the user, and because it covers the nose with a pad, moist breath may come out of the mask and go upward. Another problem with this patent is that is made to be fitted for a motorcycle helmet so that its use is limited to people who are riding motorcycles. Accordingly, a primary objective of this invention is to provide an improved anti-fogging mask by adding a washable and detachable breath-blocking part to a regular form of a mask. This invention perfectly seals the nose and covers the upper part of the face above the mask. It has broad applications in that it can be used not only by people who wear glasses but also by those who ride motorcycles or those who work in cold storage warehouse. Another objective of this invention is to provide a cheaper anti-fogging mask through a mass production system that is possible due to its simple structure.

#### 15 SUMMARY OF THE INVENTION

5

10

20

To achieve the foregoing and other objectives, the present invention is generally directed to an improved anti-fogging mask. In accordance with the objectives of the invention, a pocket is provided at the end of the invention, a breath-blocking material which is made from soft material is inserted inside the said pocket and a wire or a form-memorizing alloy is inserted inside the said beath-blocking material so that the upper part of the invention may be kept in close

contact with the inside the breath-blocking part.

### BRIEF DESCRIPTION OF THE DRAWING

- FIG. 1 is an overview of the invention
- 5 FIG. 2 is a detailed drawing of part A of the invention as shown in FIG. 1.
  - FIG. 3 is a detailed drawing of part C-C' of the invention as shown in FIG. 2.
    - FIG. 4 is another overview of the invention.
- FIG. 5 is a section of part B-B' of the invention as shown in FIG. 4.
  - FIG. 6 shows the invention being worn by the user.

#### DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

- The functions and structure of this invention according to the drawings is as following.
  - FIG. 1 is an overview of the invention, FIG. 2 is a detailed drawing of part A of the invention as shown in FIG. 1, FIG. 3 is a detailed drawing of part C-C' of the invention as shown in FIG. 2,
- FIG. 4 is another overview of the invention. FIG. 5 is a section of part B-B' of the invention as shown in FIG. 4 and FIG. 6 shows the invention being worn by the user.

Reffering now to FIG. 1 and 3, the invention comprises the body (20) of the invention with a pocket (60) on its top, a detachable breath-blocking part (50) that is attached to the said pocket (60) and a wire (40) inserted in and fixed to the breath-blocking part (50).

The said breath-blocking part (50) is maid from a flexible material such as rubber so that the upper part if the invention may kept in close contact with the nose and the upper part of the face.

5

10

15

20

Both ends of the said pocket (60) are tightly sealed so that the breath-blocking part (50) may not come out of the invention. An insert groove (30) is provided inside the area that secures one end of the said pocket (60) so that the breath-blocking part (50) may be easily detachable for washing.

Either by deeply or shallowly inserting the said breath-blocking part (50) and pocket (60) in order to elongate the invention for a better fit, the said breath-blocking part (50) and pocket (60) may have various shapes.

A wire (40) which is coated with plastic or rubber or which is made of form-memorizing alloy is inserted inside breath-bloking part (50) and its shape is maintained unless it is subjected to an outside force. The said wire (40) can be one or more.

Referring now to FIG. 4 and 5, the said breath-blocking part (50), which is detachable, is on the upper part of the body (20) of the

invention. Velcro (70, 70') is attached to the said detachable breath-blocking part (50) so that it can be detachable to the upper end of the body (20) of the invention and a wire (40) is inserted into the said detachable breath-blocking part (50).

The said Velcro (70, 70') is attached to the upper part of the body (20) of the invention and the velcro's contact area of the detachable breath blocking part (50) so that it can be detachable to the upper part of the body (20) of the invention.

5

10

15

FIG. 6 illustrates the structure of the invention. The detachable breathe-blocking part (50) and wire (40) are in close contact with the upper part of the body (20) of the invention so that there is no gap between the mask and the nose and the moist breath cannot go up to the glasses (45) but is absorbed by the body (20) of the mask or falls down to the lower part of the body (20) of the invention without fogging up the glasses (45).

The shape of this invention is not limited to the above description but may vary within the scope of the claims of the invention, and such variation of the shape is within the scope of claims of this invention.

#### what is claimed is:

- 1. Anti-fogging mask, comprising:
- the body of the invention;
- a pocket attached to the upper end of the body;
- 5 a detachable, breath blocking part inserted into the said pocket;

PCT/KR01/01917

- a wire, coated with the plastic or rubber or which is made of form-memorizing alloy, which helps the upper part of body of the invention remain closely in contact with the nose.
- 2. An anti-fogging mask as in Claim 1, wherein both ends of the said pocket are sealed and an insert groove is provided to enhance the detachability of the breath-blocking part.
- 3. An anti-fogging mask as in Claim 2, wherein velcro is
  attached to the upper part of the body of the invention and to the
  Velcro's contacting area of the breath-blocking part so that the said
  breath-blocking part may be detachable to the upper part of the body.

FIG. 1

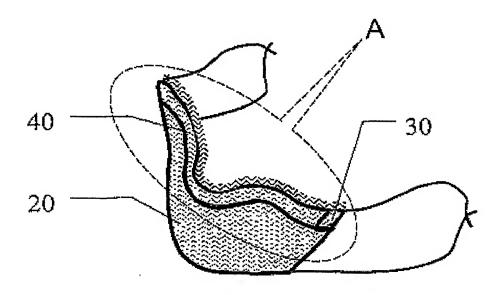


FIG. 2

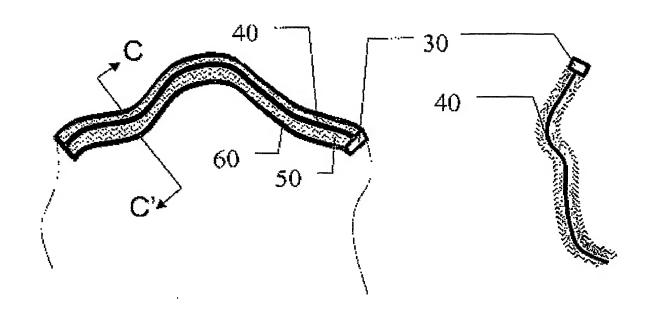


FIG. 3

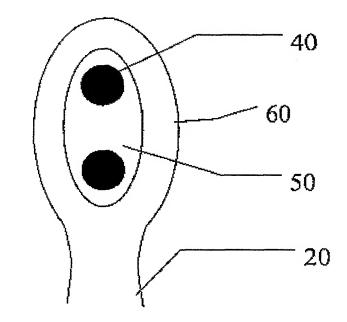


FIG. 4

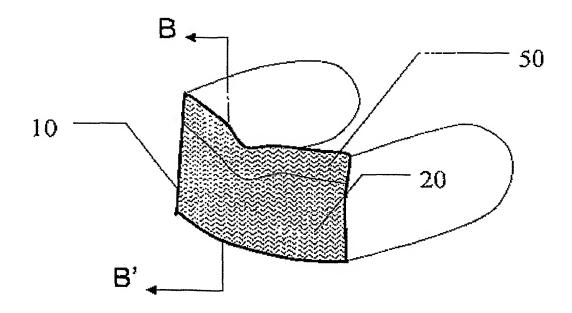


FIG. 5

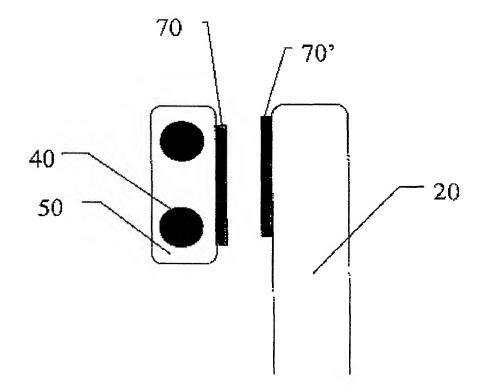
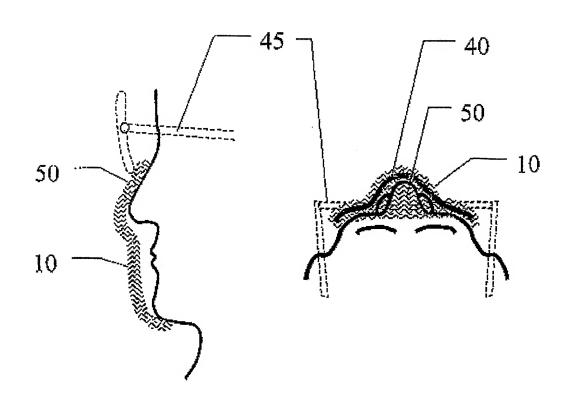


FIG. 6



## INTERNATIONAL SEARCH REPORT

International application No. PCT/KR01/01917

A. CLASSIFICATION OF SUBJECT MATTER			
IPC7 A62B 18/02			
According to International Patent Classification (IPC) or to both national classification and IPC			
B. FIELDS SEARCHED			
Minimum documentation searched (classification system followed by classification symbols)  IPC7 A62B 18/00, 18/02			
IPC/ A62B	18/00, 18/02		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched			
	a base consulted during the intertnational search (name	of data base and, where practicable, search te	rms used)
New Patent	& Utility Search System (KIPO)		
C. DOCUMENTS CONSIDERED TO BE RELEVANT			
Category*	Citation of document, with indication, where appropriate, of the relevant passages		Relevant to claim No.
Y	KR 93-0000348 U (KIM, KWANSIK; DO, YOU	1,3	
	Whole Document		
Y	JP 63-176464 U (MAGARA SUKEAKI) 16 NOVEMBER 1988 Whole Document		1
Y	y JP 02-109653 U (MOTOHIRA YASUHIKO) 3 SEPTEMBER 1990		3
	Whole Document		
A KR 2000-0192908 Y (KWON, YONGHWI) 16 AUGUST 2000		3	
	Claim 1, Figure 1-Figure 4		
Further documents are listed in the continuation of Box C.  See patent family annex.			
* Special categories of cited documents: "T" later document published after the international filing date or priority			
"A" document defining the general state of the art which is not considered to be of particular relevence date and not in conflict with the application be the principle or theory underlying the invention			
"E" earlier application or patent but published on or after the international "X" document of particular relevence; the claimed invention cannot filing date  "Considered novel or cannot be considered to involve an invention."			
"L" document which may throw doubts on priority claim(s) or which is step when the document is taken alone			
cited to establish the publication date of citation or other special reason (as specified)  "Y" document of particular relevence; the claimage considered to involve an inventive step			imed invention cannot be when the document is
"O" document referring to an oral disclosure, use, exhibition or other means combined with one or more other such documents, such combined with one or more other such documents, such combined with one or more other such documents, such combined with one or more other such documents, such combined with one or more other such documents, such combined with one or more other such documents, such combined with one or more other such documents, such combined with one or more other such documents, such combined with one or more other such documents, such combined with one or more other such documents, such combined with one or more other such documents, such combined with one or more other such documents, such combined with one or more other such documents, such combined with one or more other such documents, such combined with one or more other such documents, such combined with one or more other such documents, such combined with one or more other such documents, such combined with one or more other such documents, such combined with one or more other such as a suc			ocuments, such combination
"P" document published prior to the international filing date but later "&" document member of the same patent family			
than the priority date claimed			
Date of the actual completion of the international search		Date of mailing of the international search report	
26 MARCH 2002 (26.03.2002)		27 MARCH 2002 (27.03.2002)	
	illing address of the ISA/KR	Authorized officer	Mann
Korean Intellectual Property Office Government Complex-Daejeon, 920 Dunsan-dong, Seo-gu, Daejeon Metropolitan City 302-701, Republic of Korea		SO, Hyeon Young	经都是到
· -		Telephone No. 82-42-481-5522	W
Form PCT/ISA/210 (second sheet) (July 1998)			